U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-175-EA

CASEFILE/PROJECT NUMBER (optional)**:**

- APDs for wells 8807C and 8811C at location K36 397 (E-P028) -Lease COC-57972
- Proposed two wells at location E-P003 - Lease COC-57966
- Proposed two wells each at locations E-P012 and E-P013 - Lease COC-57970
- Proposed two wells at location DW-P006 - Lease COC-57973
- Trunk Pipeline and Compressor Station - COC67994
- Use and Upgrade of Cb Ridge Road (BLM Road 1009A) - COC67995

PROJECT NAME: EnCana Eureka/Double Willow Exploration - Cb Ridge

LEGAL DESCRIPTION: T2S, R97W, Sec. 25, 36
T3S, R97W, Sec. 1, 12, 13, 24-25, 36
T3S, R96W, Sec. 18-19
T4S, R97W, Sec. 1-2, 11, 14-15

APPLICANT: EnCana Oil & Gas (USA) Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: This environmental assessment (EA) addresses all proposed and potential facilities associated with the exploration of the oil and gas resources in the area of Cb Ridge (Figure 1) by EnCana Oil and Gas (USA) Inc. (EnCana). Cb Ridge refers to the ridge that includes Federal Oil Shale Tract Cb at its northern end, with Stewart Gulch on the east and Scandard Gulch on the west, progressing south roughly to the Garfield County line, T4S, R97W, Section 15 (See Figure 2). This project area covers about 11 miles from Piceance Creek to the southern end of the ridge.

The facilities that are planned for the project area are described below. All of the proposed or potential well pad sites were included in EnCana's on-site Group F (June 1, 2004). Those facilities for which Applications for Permit to Drill (APDs) or Right-of-Way (ROW) Applications that have been received are so indicated.

- Well Pad K36 397 -- APDs for two wells, 8807C and 8811C, have been received for this well pad, located at T3S, R97W, NESW Sec. 36. During the on-site and survey of this location, it was referred to as the E-P028. Included with this well pad would be a new 275 foot access road and a pipeline, to be buried in the road.

- Other planned locations for which APDs have not yet been received:

Well Pad Site	On-Site ID	Location	Access Road Length
H13 397	E-P003	T3S, R97W, SENE Sec. 13	550 feet
A24 397	E-P012	T3S, R97W, NENE Sec. 24	1,365 feet
H25 397	E-P013	T4S, R97W, SENE Sec. 25	175 feet
B01 397	DW-P006	T4S, R97W, NWNE Sec. 01	3,850 feet

- Road upgrade -- Improvement of an estimated 8.1 miles of the existing 11 mile road up the ridge from Piceance Creek to the Rocky Mountain Natural Gas Pipeline. The initial 2.9 miles of the road are paved and in good condition. No major improvements to the road are anticipated. The improved access road would have an 18-20 foot running surface, be crowned and ditched, with application of surface materials and additions to the existing water bars as needed. (ROW application serialized as COC67995.)

- Compressor station -- Construction of a natural gas compressor station on 10 acres near the south end of the ridge at the intersection with the Rocky Mountain Natural Gas Pipeline, in T4S, R97W, Sec.14-15. The size and capacity of the compressor station have not been specified but it is assumed to eventually to be equipped with the equivalent of 4,000 horsepower. (ROW application serialized as COC67994.)

- Trunk pipeline -- Construction of about 8.1 miles of buried pipeline, up to 16" in diameter, from the southern fence of the Cb site to the compressor station at the south end of the ridge. The pipeline would be adjacent to the east side of the ridge road for its entire length. (ROW application serialized as COC67994 with compressor station.)

All new surface disturbances for access roads, pipelines and well pads would be located on federal lands administered by BLM. Total initial disturbance is estimated at 134 acres – 49 acres for the improved access road, 49 acres for the trunk pipeline, 19 acres for well pads, 7 acres for new access roads and tie-in pipelines, and 10 acres for the proposed compressor station. After successful reclamation of the disturbed areas, long-term disturbance is estimated at 49 acres.

Construction of the K36 397 well pad and drilling of wells 8807C and 8811C would likely take place in 2004. All other well pad locations would be developed in 2005 and later years. Improvements to the ridge road would take place at the same time as development of the K36 397 location. The trunk pipeline and the compressor station could be constructed at the same time as development of the K36 397 location, or could be done some time afterwards.

No Action Alternative: None of the proposed wells, well pads, access roads, tie-in pipelines, or the trunk pipeline would be constructed. The compressor station would not be built and the ridge road would not be improved.

NEED FOR THE ACTION: All of the proposed or potential actions analyzed in this EA are being pursued by EnCana in order to exercise its federal mineral lease rights.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

Decision Language: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The action conforms to the decisions/pages of the plan listed above.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below.

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The project area is within a Class II Prevention of Significant Deterioration (PSD) air quality area. No Class I PSD areas are within 40 miles of the project area.

The principal air quality parameter likely to be affected by construction of well pads, roads, and pipelines within the project area is the inhalable particulate level (PM_{10} - particles ten microns or less in diameter) associated with fugitive dust. Although no monitoring data are available for the survey area, it can be surmised that the air quality is good because the Colorado Air Pollution Control Division (APCD) estimates the maximum PM_{10} levels (24-hour average) in rural

portions of western Colorado like the Piceance Basin to be less than 50 micrograms per cubic meter. This estimate is well below the National Ambient Air Quality Standard for PM_{10} (24-hour average) of 150 $\mu g/m^3$.

The compressor station to be located at the south end of the project area is assumed at full capacity to be equipped with engines rated at 4,000 horsepower. The principal air quality parameters likely to be affected by operation of these compressor engines are nitrogen dioxide (NO_2) and carbon monoxide (CO). No data for background concentrations of these gases are available for the Piceance Basin but, because this is a rural area with few industrial facilities, background concentrations are assumed to be well below National Ambient Air Quality Standards (CO: 40,000 $\mu g/m^3$ second 1-hour maximum, 10,000 $\mu g/m^3$ second 8-hour maximum; NO_2: 100 $\mu g/m^3$ annual). (USDI BLM, 1999)

Environmental Consequences of the Proposed Action: The construction of the facilities proposed for the project area – well pads, pipelines, roads, and the compressor station - would result in short term, local impacts on air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis. Following successful revegetation of the sites, airborne particulate matter should return to near pre-construction levels.

The operation of the compressor would generate emissions that are assumed to be proportional to those estimated by BLM in Garfield County in 1999. (USDI BLM, 1999) The 4,000 horsepower engines assumed for this station represent 21 percent of the 19,000 horsepower analyzed in that study. The proportionate levels of pollutants generated by the Cb Ridge compressor would then be 320-334 $\mu g/m^3$ (one hour) and 97-130 $\mu g/m^3$ (eight hour) for CO and 14-17 $\mu g/m^3$ (annual) for NO_2. These levels are all far below the National Ambient Air Quality Standards.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement mitigation including dust abatement measures as described in the APD's 13 Point Surface Use Plan.

Permitting of all regulated air pollution sources through the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, will assure compliance with all federal and state standards.

CULTURAL RESOURCES

Affected Environment: Well Pad K36 397 (E-P028) and Well Pads E-P003, E-P012, E-P013, and DW-P006: The proposed well pads and associated access roads and pipelines within the well pad inventory areas have been inventoried at the Class III (100% pedestrian) level (Montgomery 2004, Compliance Dated 6/22/2004). Well tie pipelines outside of the 40 acres well pad inventory areas have not been identified or inventoried. No cultural resources had previously been recorded in these areas and none were identified in the inventory.

Road Upgrade, Trunk Pipeline and Compressor Station: The proposed road upgrade, pipeline route and compressor site were inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 8/18/2004, Conner 2004 Compliance Dated 8/27/2004). No cultural resources had previously been recorded in these areas but the inventory recorded two new finds - a prehistoric open lithic scatter (5RB4807) and one prehistoric isolated find, a white chert flake (5RB4808). Both were field evaluated as not eligible for listing in the National Register of Historic Places (NRHP). As flagged, the pipeline corridor would avoid the lithic scatter.

Environmental Consequences of the Proposed Action: Construction of the proposed well pads, their associated access roads and tie-in pipelines, and the trunk pipeline adjacent to the ridge road would not impact any known cultural resources. Construction of the compressor facility would probably destroy Isolated Find 5RB 4808. Upgrade of 8.1 miles of the existing road up Cb Ridge would not impact any known cultural resources.

Environmental Consequences of the No Action Alternative: None

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

3. Site 5RB 4807 (T4S, R97W, SWSESWNW sec.14) shall be avoided by all construction and maintenance activities for the pipeline and road.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Well Pad K36 397 (E-P028) and Well Pads E-P003, E-P012, E-P013, and DW-P006: These well pads and proposed access roads were inventoried for the presence of any noxious or invasive weeds on June 13, 2004. Approximately 30 acres around each proposed well pad and access road were inventoried. A minimum radius of 600 feet around the well stake and 50 feet on either side of the flagged access road was inventoried.

No noxious weed species were found. There is considerable cheatgrass in the areas around well pads E-P012 and E-P013 as a result of a recent burn. It appears the cheatgrass is decreasing as the perennial grasses increase and, eventually, the perennial grasses will replace the cheat grass.

Proposed Pipelines: The proposed pipelines from the well pads to the trunk line were within the areas inventoried for the proposed access roads. The proposed trunk pipeline route along the main road up Cb Ridge between the Cb oil shale tract to a tie-in point on the Rocky Mountain Pipeline was inventoried for the presence of any noxious or invasive weeds on June 15 and 16, 2004. An area of 100 feet on the east side of the main road was inventoried. A small infestation of Musk Thistle (fewer than 10 plants) was located within the proposed pipeline route in the SE¼NE¼NE¼ of section 24, T 3 S, R 97W. No other noxious weed species were found along this route.

There is considerable cheatgrass along a portion of this route as a result of a recent burn. It appears the cheatgrass is decreasing as the perennial grasses increase and, eventually, the perennial grasses will replace the cheat grass.

Environmental Consequences of the Proposed Action: This general area of the Piceance Basin has infestations of houndstongue, musk thistle, yellow toadflax, leafy spurge, black henbane and spotted knapweed, all of which are being treated by BLM, local ranchers and others. The disturbance associated with the actions proposed in the project area could create a noxious weed problem by importing weed seed on vehicles and equipment or by having suitable conditions present (non-vegetated disturbed areas) for introduction of noxious weeds by other vectors. In addition to noxious weeds, invasive non-native species such as cheat grass could also establish on these areas. Establishment of noxious or invasive weeds would create problems through seed production in proportion to the number of plants and the duration they are reproducing. Increased seed production of noxious or invasive plants could aggressively compete with or exclude desired vegetation during reclamation. The noxious or invasive species seed production could also encourage the spread of these unwanted plants into the adjacent native plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer.

The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

Other mitigation is included in the Vegetation section.

MIGRATORY BIRDS

Affected Environment: A large array of migratory birds nest during the months of May, June and July within the sagebrush, pinyon-juniper and mountain shrub communities that are found in the project area. Bird populations associated with these communities that have a high conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) are listed in the following table. There are no specialized or narrowly endemic species known to occupy the project area.

Birds of High Conservation Priority by Habitat Association

Sagebrush	Pinyon-juniper	Mountain shrub
Brewer's sparrow Green-tailed towhee	Pinyon jay, black-throated gray warbler, Juniper titmouse, gray flycatcher, gray vireo, violet-green swallow	Blue grouse Common poorwill

As a result of past disturbances on Cb Ridge, such as wild fire, oil shale development and chaining, significant areas are dominated by perennial grasses and forbs and often are still covered with the skeletal remains of pinyon and juniper trees. Birds using these areas in considerable abundance include mourning dove, brewer's sparrow, vesper sparrow, western bluebird and house finch.

Environmental Consequences of the Proposed Action: Construction or upgrade of roads, well pads and pipelines would result in disturbance on about 134 acres of sagebrush, pinyon-juniper, grass/forb and mountain shrub habitat. Although the proposed actions n the project area would represent an incremental and long-term reduction in the extent of the habitat associations described, implementation of the proposed actions would have no measurable influence on the abundance or distribution of breeding migratory birds at the scale proposed. Nesting of migratory birds may be disrupted and nests could be lost should construction activities occur during the May through June period.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: The area of the proposed action includes no federally-listed animal species and no habitat for such species. The special status species of concern in the project area include two Colorado BLM Sensitive Species, greater sage-grouse and northern goshawk. Additionally, other accipiters - sharp-shinned hawk and Cooper's hawk - are species of concern in the project area.

Within the Piceance Creek drainage, habitats with the greatest potential for goshawk are spruce/fir and aspen stands. On Cb ridge, there are no significant stands of aspen, spruce or Douglas-fir, although there are occasional small pockets of Douglas-fir or individual fir trees in side draws coming off the ridge. The pockets of Douglas-fir, when associated with large mature pinyon/juniper, have limited potential for nesting goshawk but can be particularly attractive to other accipiters (Cooper's and sharp-shinned Hawk) for nesting. The well pads, access roads and pipelines, the ridge road and the trunk pipeline along the ridge road were all surveyed for potential raptor nesting habitat.

Well Pad E-P003, access road and pipeline: The short access road and well pad are located on the west side of Cb Ridge in an older chaining that has been re-occupied by younger pinyon and juniper. Although the access road and well pad location provide no suitable raptor nesting habitat, the side canyon and ridge to the west support a large Douglas-fir and a mature stand of large, well-branched pinyon/juniper trees. These trees provide excellent potential for accipiter nesting. Approximately 20 acres were searched in this area for evidence of nesting activity. No raptor nesting activity was noted.

This area is outside the overall range for sage-grouse, is occupied by basin big sage, is xeric in nature and has historically been a pinyon/juniper type with no potential for sage-grouse.

Well Pads E-P012 and E-P013, access roads and pipelines: These two sites are located within a recent burn that extended east to west across Cb ridge from drainage to drainage. The fire killed essentially all trees in the area, leaving no suitable raptor nesting habitat for some time to come.

Both sites are outside the overall range for sage-grouse and, prior to being burned, were dense pinyon/juniper. The nearest lek is five miles to the south on the upper end of Cb Ridge. Currently, there is a good mixture of forbs and grasses, but essentially no sagebrush. The current absence of Wyoming or mountain big sage brush makes the area unsuitable for sage-grouse.

Well Pad E-P028 (K36 397), access road and pipeline: The short access road and well pad are located in a pinyon/juniper mountain shrub vegetation type. Although there is a scattering of larger pinyon/juniper trees, many younger trees have encroached on the area. Along the access road and pipeline and within ⅛-mile of the well pad, all larger trees were searched for evidence of raptor nesting. No evidence of nesting was found. The lack of current evidence and the very limited number of suitable nesting trees precludes the need for additional surveys.

The height of serviceberry and sage brush, together with the encroachment of younger pinyon/juniper along the access road and at the well pad, severely limit the suitability of this site as sage-grouse habitat. Dense pinyon/juniper on the west side of the main ridge road has also

isolated any small serviceberry/sage brush openings from more suitable sage-grouse habitat located along the ridge top east of the main road and to the south. The nearest known leks are 3½ miles to the south.

Well Pad DW-P006, access road and pipeline: The access road and pipeline cross Cb Ridge from the ridge road on the west to the well pad location on the eastern edge of the ridge. Recent fires occurred just to the north and east of this well pad, but didn't burn along the access route or near the well pad. A strip of medium-sized pinyon/juniper trees along the eastern edge of the ridge was not burned and this area was searched for evidence of raptor nesting. No evidence of nesting was noted and the trees, generally less than 25 feet in height, are considered marginal at best as nesting habitat.

Although field visits found no sign of recent sage-grouse use, the center of Cb Ridge at this point appears to be suitable sage-grouse habitat. The ridge top is a mosaic of serviceberry patches and patches of mountain sage/serviceberry of a height (under 2 feet) more suited for sage-grouse. The herbaceous understory is also well developed with a mixture of perennial grasses and forbs. Pinyon/juniper encroachment is minimal at this time. Although the nearest lek is 3½ miles to the south, Cb Ridge from this point south provides very good potential for sage-grouse habitat and population restoration.

Road Upgrade and pipeline: No suitable raptor habitat is found along the corridor to be occupied by the ridge road and the adjacent pipeline. An older chaining removed what trees had been located in the northernmost part of the ridge; a recent wildfire burned off the trees located on the road corridor in the central portion of the ridge; and the upper third of the corridor passes through mixed mountain shrub sagebrush communities that provide no nesting sites.

The northern 2/3 of the ridge road/pipeline corridor contains no suitable greater sage-grouse habitat. The area is outside the overall range for sage-grouse, is occupied by basin big sage, is xeric in nature and has historically been a pinyon/juniper type with no potential for sage-grouse. However, the southern third of the ridge - from the burned area to the south end - does contain potential habitat. Although field visits found no sign of recent sage-grouse use, the center of Cb Ridge in the southern third of the project area, appears to be more suitable sage-grouse habitat than the north end of the ridge. It is a mosaic of serviceberry patches and patches of mountain sage/serviceberry of a height (under 2 feet) more suited for sage-grouse. The herbaceous understory is also well developed with a mixture of perennial grasses and forbs. Pinyon/juniper encroachment is minimal. Cb Ridge in this area provides very good potential for sage-grouse habitat and population restoration.

Environmental Consequences of the Proposed Action: Well site E-P003 is the only one of the five well pads in the project area where raptor nesting might be impacted. No suitable raptor nesting habitat would be removed, but construction during the nesting season has the potential to disturb excellent habitat along the west rim and into the side draws. This impact could be removed by not constructing the site during the nesting season.

Below well site DW-P006 (to the north), construction of the proposed well pads, their associated access roads and pipelines, upgrading the existing road and constructing the trunk pipeline would

not affect greater sage-grouse since the area is largely outside the overall range for grouse, is xeric in nature and has historically been a pinyon/juniper type with no potential for sage-grouse.

However, construction and operation of well pad DW-P006, its access road and pipeline, upgrade of the ridge road from this point south and construction of the trunk pipeline from this point south would remove suitable sage-grouse habitat at different points along the corridor and would result in a higher level of on-going disturbance. This impact would likely be greatest on restoration potential since current use by sage-grouse has not been documented. The road to well pad DW-P006 would bisect suitable sage-grouse habitat and has the potential of hindering normal grouse movement. In the long-term, the disturbance has the potential to create habitat in those sections of the road/pipeline corridor that passed through patches of mountain shrub.

Environmental Consequences of the No Action Alternative: None.

Mitigation: A seasonal restriction on construction and drilling during the raptor nesting season Feb. 1 to Aug. 15 may be placed on well pad E-P003 to avoid disturbance of excellent raptor nesting habitat located along the west rim and side draws (approximately 20 acres).

A current raptor survey must be obtained prior to surface disturbing activities if construction is going to occur during this nesting season. It is the responsibility of EnCana to contact the BLM or a third-party contractor to have this survey completed prior to surface-disturbing activities.

In occupied habitat, or habitat suitable for restoration for sage-grouse, a seed mix containing mountain sage, limited perennial grass seed (minimize competition with seeded shrubs and forbs) and forbs (i.e. western yarrow, penstemons, globe mallow, etc.) should be applied in areas being re-vegetated. When seeding mountain big sage brush, the seed should be broadcast rather than drilled and applied in the fall or on snow during the winter.

After development of the facilities at the DW-P006 location, the access road leading to the well pad should be gated adjacent to the main ridge road. The gate should be supplemented with boulders and/or short segments of fencing to discourage vehicles from circumventing the gate.

The proposed actions in the project area represent an exploration phase. Should the Eureka/Double Willow Units go to a production phase, a comprehensive mitigation plan for greater sage-grouse and other potentially affected species will be developed for the units at that time.

Finding on the Public Land Health Standard for Threatened & Endangered species: The standard with regard to the goshawk is being met and will continue to be met. The standard with regard to the greater sage-grouse is expected to be satisfied by mitigation for grouse or grouse habitat for the Eureka/Double Willow Units, to be developed by BLM and the Colorado Division of Wildlife. Greater sage-grouse mitigation developed for these units will be in addition to mitigation developed for other oil and gas development areas within the Piceance Basin.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

Environmental Consequences of the No Action Alternative: No hazardous or other solid wastes would be generated under the no-action alternative.

Mitigation: The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: Surface Water: The currently proposed K36 397 well pad (E-P028), potential future Group F well pads (E-P003, E-P012, E-P013 and DW-P006), associated access roads and tie-in pipelines, the trunk pipeline adjacent to the ridge road, and the proposed compressor facility are all located along an existing road alignment that traverses Cb Ridge. Project features lie primarily within the Scandard Gulch drainage, which is tributary to Willow Creek, although small portions of the project area may drain towards Cottonwood Gulch, Sorghum Gulch, and the West Fork Stewart Gulch. All these potentially affected drainages are tributary to perennial Piceance Creek, a tributary of the White River, which ultimately flows into the Colorado River. Water quality standards and guidance for drainages within the Lower Colorado River Basin are included in CDPHE-WQCC Regulation No. 37 (2004a).

Willow Creek is listed as the mainstem of Willow Creek from the source to the confluence with Piceance Creek; Stewart Gulch is listed as from the sources of East, Middle, and West Forks to the confluence with Piceance Creek. Both are included in Segment 17 of the White River. Segment 17 has use designations of aquatic life cold 2, recreation 2, and agriculture, with a use-protected aquatic designation. Recreation class 2 designation is for streams where primary contact recreation does not exist and cannot be reasonably expected to exist in the future, regardless of water quality. The recreation class 2 designation for Willow Creek and Stewart Gulch is due to its ephemeral or intermittent nature and limited access.

Sorghum Gulch and Cottonwood Gulch are included in White River Segment 16 which includes "All tributaries to Piceance Creek, including all wetlands, lakes and reservoirs, from the source to the confluence with the White River, except for the specific listings in Segments 17 and 20" (CDPHE, 2004a). Segment 16 has a use-protected designation and has classifications of aquatic life warm 2, recreation 2, and agriculture.

The "Status of Water Quality in Colorado – 2004" (CDPHE, 2004b) was reviewed for information related to the project area drainages. White River Segment 17 (includes Willow Creek and Stewart Gulch) was noted to have fully-supporting aquatic life cold 2, fully-supporting recreation 2, and fully-supporting agriculture designated uses. White River Segment 17 has a Colorado integrated reporting category of 1 which is described as: "fully supporting for all uses, all uses have been assessed and all uses are fully supporting the designated uses." White River Segment 16 (Piceance Creek tributaries including Sorghum and Cottonwood Gulches) was noted to have fully-supporting aquatic life warm 2, fully-supporting recreation 2, and fully-supporting agriculture designated uses. White River Segment 16 also has an integrated reporting category of 1.

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE, 2004c and 2004d) were reviewed for information related to the project area drainages. Regulation No. 93 is the State's list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2004 list of segments needing development of TMDLs includes one segment within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development).

Regulation 94 is the State's list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes five White River segments that are potentially impaired – 9, 12, 13a, 21, and 22. Neither Segment 16 (Piceance Creek tributaries) nor Segment 17 (Willow Creek and Stewart Gulch) are listed.

Ground Water: The project area is located within the Piceance Creek structural basin. Snowmelt and rain recharge the bedrock aquifers and replenish the ground water that migrates through the Uinta and Green River Formations (Tobin, 1987). Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Information presented in Topper et al. (2003) indicates the following approximate depths to potentiometric surfaces within hydrogeologic units: upper Piceance basin aquifer 600 feet, lower Piceance basin aquifer 700 feet, and Mesaverde aquifer 400 feet (based on a surface elevation of 7,400 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are not common in the basin. In the project area the total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter. Primary hydrogeologic units within the Piceance Basin are listed in the following table.

Summary of Hydrogeologic Units

Hydrogeologic Unit	Thickness (ft)	Approx Avg Depth (ft)	Conductivity (ft/day)	Yield (gpm)	Transmissivity (ft^2/day)
Upper Piceance Basin aquifer	0 – 1,400	700	<0.2 to >1.6	1 to 900	610 to 770
Lower Piceance Basin aquifer	0 – 1,870	2,800	<0.1 to >1.2	1 to 1,000	260 to 380
Mesaverde aquifer	Averages 3,000	7,700	NL	NL	NL

Abbreviations: ft – feet, approx – approximate, avg – average, gpm – gallons per minute, and NL – not listed.

Table information from Topper et al. (2003).

The Oxy SG-9 well is located in the SESE of Section 11 (approximately 1 mile ENE of potential well pad E-P003). This well was originally drilled to 2,750 feet and completed with 3 piezometer casings screened at depths ranging from 720 to 1,646 feet. This well was reworked in 1999 to remove piezometer casings and was cemented up to a depth of 435 feet in the Upper Parachute member. BLM is the surface owner and holds a state water well permit for an exempt well in permit # 245240. No data on water yield from historic or current completion depths is known. However, the static water level was noted to be at 126 feet in June, 2001.

Environmental Consequences of the Proposed Action: Surface Water: The primary potential water quality impact would be from additional sediment resulting from construction of the proposed access roads, drill pads, trunk pipeline and compressor facility. Depleting the vegetation cover needed to protect watersheds from precipitation and runoff could increase short-term erosion and increase sedimentation delivery to the White River watershed. Runoff-producing storm events could increase sediment loads in ephemeral channels. Depending on the soils affected, salt content in the sediment may also degrade water quality.

The magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements. Impacts would continue until mitigation has been implemented and proven to be successful. Such mitigation would include revegetating the unused portion of the well pads as soon as possible, placing gravel on areas that would not be revegetated, or placing check dams to control runoff.

Ground Water: Impact on groundwater resources is not anticipated. Shallow aquifers are protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. The objective of surface and intermediate casing is specifically to isolate shallow aquifers. Hydrofracturing used to stimulate natural gas production of the Mesaverde Formation is anticipated to extend a maximum of 500 feet horizontally from each well bore and not at all vertically. Any groundwater produced from the Mesaverde Formation will be hauled off and disposed due to poor water quality and therefore preventing adverse impacts to surface water.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit the stormwater management plan to BLM showing how BMPs will be utilized to prevent stormwater erosion.

When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation once the drilling is completed.

All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

Vegetation or artificial stabilization of cut and fill slopes shall be provided for in the design process. Establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance shall be avoided.

Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Water quality in the stream segments within the project area meets the criteria established in the standard. With successful reclamation, the proposed and potential actions in the project area would not change this status.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, riparian or wetland systems, prime and unique farmlands, wild and scenic rivers, Areas of Critical Environmental Concern or Wilderness exist within the project area. The project area was inventoried for threatened, endangered or sensitive plant species and no such species nor habitat for such species were found in the area. The Public Land Health Standards for wetland or riparian systems and threatened, endangered or sensitive plant species are not applicable to this action, since neither the proposed action nor the no-action alternative would have any influence on these. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The soil types in the project area occur from 6,000 to 8,900 feet in elevation. The average annual precipitation in the project area is 14 to 22 inches, the average annual temperature is 37 to 45 degrees F, and the average frost-free period ranges from 80 to 105 days. The proposed well pads and associated access roads, the ridge road improvement, trunk pipeline construction, and construction of the compressor facility would occur within six soil units inventoried by the Natural Resources Conservation Service (NRCS). Soil units, names, and characteristics are listed in the following table (SCS, 2004).

All soil units have listed salinity values of less than 2 Mmhos per centimeter. None of the unit mapping indicates a fragile soil with slopes greater than 35 percent.

Summary of Project Area Soil Units							
Soil Map Unit	**Soil Unit Name**	**Slope (%)**	**Ecological Site**	**Effective Rooting Depth in)**	**Runoff**	**Erosion Potential**	**Bedrock Depth(in)**
15	Castner channery loam	5 to 50	Pinion-Juniper woodland	10 - 20	Medium to rapid	Moderate to very high	10 - 20
33	Forelle loam	3 – 8	Rolling Loam	≥ 60	Medium	Moderate	>60
43	Irigul-Parachute Complex	5 – 30	Mountain Loam	10 – 20	Medium to rapid	Slight to very high	10-40
64	Piceance fine sandy loam	5 – 15	Rolling Loam	20 – 40	Slow to medium	Moderate to high	20-40
66	Potts-Begay fine sandy loams	2 – 7	Sandy Saltdesert	≥ 60	Slow	Slight	> 60
70	Redcreek-Rentsac Complex	5 – 30	Pinion-Juniper Woodland	10 – 20	Medium	Moderate to high	10-20
73	Rentsac channery loam	5 – 50	Pinion-Juniper Woodland	10 – 20	Rapid	Moderate to very high	10–20

Environmental Consequences of the Proposed Action: Road, well pad, pipeline, and compressor facility construction would remove surface cover and disturb soils, thus potentially increasing soil erosion and reducing soil health and productivity. Actions considered in this analysis and their potential to produce soil disturbance are as follows:

1. Access from Piceance Creek first crosses 2.9 miles of existing paved road in good condition. No improvement would be required and no soil disturbance is anticipated.
2. The remaining 8.1 miles of the access along the ridge to the compressor station at the south end of the ridge would require varying degrees of improvement, increasing as the road moves up the ridge. The width of disturbance is assumed to be 50 feet . On a long-term basis, the 30 foot width for the running surface and borrow ditches would remain unvegetated.
3. The proposed trunk line construction along the existing road up the ridge from the Cb Tract has a length of 8.1 miles with an assumed disturbance width of 50 feet. With successful reclamation, this entire width would eventually be revegetated.
4. The proposed K36 397 well site would have a disturbance of 3.2 acres. The disturbance produced by the other well pads in the project area is assumed to be 4 acres each with one acre each remaining unvegetated for the life of the project.
5. Access roads to the 5 well sites total 1.2 miles. The analysis assumes an initial 50 foot disturbance width (including the placement of the tie-in pipeline) and a 30 foot unvegetated width for the life of the well.
6. The compressor facility would occupy 10 acres, most of which would be disturbed and remain unvegetated for the long-term.

The table below shows the calculated disturbance by soil mapping unit for each of the proposed actions in the project area.

Facility	Soil Mapping Unit							Total Area (acres)
	15	33	43	64	66	70	73	
Improvement of Existing Road with Adjacent Trunk Pipeline								
Feet	9000	1550	11350	1610	470	15890	2680	
Acres	20.6	3.5	26.1	3.7	1.1	36.5	6.2	97.6
New Pad Access Roads with Co-located Pipelines								
Feet	3627			674		1911		
Acres	4.1			0.8		2.2		7.1
Well Pads								
Acres	4.0			4.0		6.0	5.2	19.2
Compressor Facility								
Acres			10.0					10.0
Total Area								
Acres	28.7	3.5	36.1	8.5	1.1	44.7	11.4	133.9

The total area of disturbance over all soil units would be about 134 acres, 73 percent of which would be for the ridge road improvement and the adjacent trunkline. After successful reclamation, an estimated 48.6 acres would remain in an unvegetated state for the life of the project (30-40 years) or longer. The majority (82 percent) of soil disturbance occurs within the following 3 soil units:

- 28.7 acres in Castner Channery loam – 5 to 50 percent slopes, medium to rapid runoff, and moderate to very high erosion potential.
- 36.1 acres in Irigul-Parachute complex – 5 to 30 percent slopes, medium to rapid runoff, and slight to very high erosion potential.
- 44.7 acres in Redcreek-Rentsac complex – 5 to 30 percent slopes, medium runoff, and moderate to high erosion potential.

The above listed soil characteristics within predominant soil units indicate the need for implementation of erosion control practices, Best Management Practices, and revegetation.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road along the ridge would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion.

When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Finding on the Public Land Health Standard for upland soils: Soils within the project area meet the criteria established in the standard for upland soils. With successful reclamation, the proposed action would not change this status.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Well Pad E-P003**:** The vegetation association at the well pad and access road is an old pinyon/juniper chaining area that was once a mature pinyon/juniper woodland. The site appearance is a Wyoming sagebrush shrubland with young pinyon and juniper trees that are increasing in canopy cover. Understory vegetation consists of crested wheatgrass planted on the site at the time the trees were chained and a mix of native forbs. Annual air dry vegetation production is estimated at 600-800 lbs/acre. Estimated vegetation cover from major species or group of species is noted in the table below.

Well Pad E-P012: The vegetation association at the well pad and access road is a pinyon/juniper woodland which has recently burned. The site appearance is a wildfire burn that has standing burned trees with an improving herbaceous understory of grasses and forbs and a few sprouting shrubs. Estimated vegetation cover from major species or group of species is noted in the table below.

The burn has released an improving herbaceous understory. Most of the grasses and all the forbs coming in are natives. It appears that some seeded grasses are coming in, mostly orchard grass and some pubescent wheatgrass. There is considerable cheatgrass in the area as a result of the burn, but it appears the cheatgrass is decreasing as the perennial grasses continue spreading. The perennial grasses should eventually replace the cheat grass. Annual air dry vegetation production is estimated at 800-1000 lbs/acre.

Well Pad E-P013: The vegetation association at the well pad and access road is a pinyon/juniper woodland which has recently burned. The site appearance is a wildfire burn that has standing burned trees with an improving herbaceous understory of grasses and forbs and a few sprouting shrubs. The site appears weedier than other areas within the same burn due to cheatgrass and annual native forbs. Estimated vegetation cover from major species or group of species is noted in the table below.

The burn has released an improving herbaceous understory. Most of the grasses and all the forbs coming in are natives. Many of the native forbs are annuals taking advantage of the recent burn, giving the site a weedier appearance. There is considerable cheatgrass in the area as a result of

the burn, but it appears the cheatgrass and annual forbs are decreasing as the perennial grasses continue spreading. Annual air dry vegetation production is estimated at 700-800 lbs/acre.

Well Pad E-P028: The vegetation association at the well pad and access road is along the fringe of a pinyon/juniper woodland and a sagebrush/upland shrubland. Most of the site lies within the shrubland. The site appearance is a Wyoming sagebrush/serviceberry plant community with young pinyon trees increasing within the community. Estimated vegetation cover from major species or group of species is noted in the table below.

The potential plant community for this site is a pinyon/juniper woodland. The current shrub community on the site is most likely the result of an old burn. Annual air dry vegetation production is estimated at 500-600 lbs/acre.

Well Pad DW-P006: The vegetation association at the well pad and access road is a sagebrush/upland shrubland with a pinyon/juniper woodland just entering on the east edge of the well pad. The site appearance is a Wyoming sagebrush/serviceberry plant community with young pinyon trees increasing toward the top of the ridge. The site is at an elevation that is near the upper limit for pinyon and where the sagebrush intergrades between the Wyoming and mountain sagebrush varieties. Estimated vegetation cover from major species or group of species is noted in the table below.

The well pad and access road are on a loamy slopes range site. The current plant community is a late seral community with good diversity of species native to the site and with good herbaceous production. Annual air dry vegetation production is estimated at 700-800 lbs/acre.

Estimated Vegetation Cover By Major Plant Species					
Plant Species (% Cover)	**Well Pad E-P003**	**Well Pad E-P012**	**Well Pad E-P013**	**Well Pad E-P028**	**Well Pad DW-P006**
Pinyon	5-10 %	-----	----	5-10 %	2-5 %
Sagebrush	20-30 %	< 2 %	----	15-20 %	20-30%
Serviceberry	< 1 %	-----	< 2 %	10-15 %	10-15%
Bitterbrush	2-5 %	< 1 %	----	< 2 %	1-2%
Mtn. Mahogany	< 2 %	-----	2 %	-----	-----
Snowberry	< 2 %	2-5 %	2-5 %	-----	-----
Native grasses	2-5 %	35-40 %	35-40 %	15-20 %	25-35%
Native forbs	5-10 %	25-30 %	10-20 %	5-10 %	10-15%
Cheatgrass	-----	5-10 %	15-20 %	-----	-----
Crested Wheatgrass	10-15 %	-----	-----	-----	-----
Bare ground	25-30 %	15-20 %	15-20 %	15-20 %	10-15%

Proposed Trunk Pipeline: The vegetation associations along the proposed trunk pipeline route along the main road up Cb Ridge between Cb oil shale tract to a tie-in point on the Rocky Mountain Pipeline are much the same as at the five well pads. The lower two miles of the route is in an old pinyon/juniper chaining and has vegetation much like that at well pad E-P003. The next three miles of the route (moving south) is in a recent pinyon/juniper burn area and has vegetation much like that at well pads E-P012 and E-P013. The last 3.1 miles of the route to the Rocky Mountain tie-in point has vegetation similar to that at well pad DW-P006.

Environmental Consequences of the Proposed Action: Construction of the proposed actins in the project area would remove all vegetation on disturbed areas, about 134 acres. An area less than 50 acres could remain non-vegetated for a considerable length of time depending upon the success and life expectancy of the Eureka/Double Willow project. The longer the disturbance remains non-vegetated, the greater the chance for invasion of weedy plants onto the site. Some of those weedy species can create problems in future reclamation efforts and some may be totally non-desirable (refer to the discussion of noxious and invasive non-native species above).

A portion of each well pad and its associated access road and pipeline could be reclaimed during the gas production phase. Of the original disturbance, 26 acres, half or more could be short term and returned to the production of desirable perennial vegetation (estimated at 17 acres). The remaining disturbance would remain non-vegetated for the life of the wells.

Construction of the proposed trunk pipeline along the main road from the Cb oil shale tract to a tie-in point on the Rocky Mountain Pipeline would remove vegetation from about 50 acres. This disturbance would remain non-vegetated for only a short period of time if successfully reclaimed. The compressor station would remove vegetation from up to ten acres.

The greatest long-term impact on vegetation, aside from the long-term use of the roads and well pads (the non-vegetated portion), would be the loss of the pinyon and native shrub components of the plant communities impacted. A fairly sizable area in the vicinity of the five well pads has recently burned, reducing the overall tree and shrub cover in the surrounding area. Granted this is a natural occurrence, however, three of the well pads and about 5.5 miles of the trunk line would remove the shrub and tree cover from an additional 45 acres.

Sagebrush would likely return to any reclaimed areas in approximately 20 years. However, the pinyon, serviceberry and bitterbrush are not likely to return to the disturbance for at least 50 years. Attempts in the past to re-establish the shrub species have had only marginal success.

Environmental Consequences of the No Action Alternative: None

Mitigation: All disturbed areas for the pipeline and roads, with the exception of the road travel surface, will be reclaimed within the first growing season or prior to the first full growing season following disturbance with native seed mix #2 (see below). Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the authorized officer.

Areas of the well pads not used during any production phase, including cut and fill slopes, would be contoured to a slope of about 5:1, an would have topsoil redistributed and revegetated with Native Seed Mixture #2 prior to the first full growing season following completion of drilling.

Native Seed Mix #2 in pounds of pure live seed per acre (lbs/pls/ac) (Source White River ROD/RMP Appendix B, Conditions of Approval):

Western wheatgrass (Rosanna)	2 lbs/pls/ac
Indian ricegrass (Rimrock)	1 lbs/pls/ac
Bluebunch wheatgrass (Whitmar)	2 lbs/pls/ac
Thickspike wheatgrass (Critana)	2 lbs/pls/ac
Green needlegrass (Lodorm)	1 lbs/pls/ac
Globemallow	0.5 lbs/pls/ac

Final reclamation of roads and well pads following abandonment would be achieved with the same seed mix.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The plant communities within the area of the proposed action have an appropriate age structure and diversity of species which meet the criteria established in the standard for vegetation. With successful reclamation, the proposed actions in the project area would not change this status.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There is no aquatic wildlife within the project area.

Environmental Consequences of the Proposed Action: None.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Because there is no aquatic wildlife within the project area, the standard is not applicable.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The main access road, well pads and short segments of new road and tie-in pipelines are all located on a north-to-south ascending ridge for approximately eleven miles. Paralleling the ridge are Stewart Gulch on the east and Scandard Gulch on the west. Considerable past disturbance to wildlife habitats has occurred on this ridge. At the northern end near Piceance Creek, Oil shale lease tract Cb was located. In addition to disturbance during tract development, much of the ridge top had been chained to reduce pinyon and juniper tree composition with more desirable wildlife and livestock forage plants. Well site E-P003 and its associated access road occur in this area. Further south, wildfires in recent years have burned the central portion of the ridge resulting in grass/forb habitat types and the skeletal remains of burnt trees. Serviceberry and other shrubs with a tendency to sprout following fire are reappearing, but sagebrush is noticeably absent. Well sites E-P012 and E-P013 occur within the burn areas. The southern portion of the ridge is primarily mountain shrub habitat with various levels of pinyon

and juniper invasion. Well sites E-P028 and DW-P006 and the proposed compressor station occur on this portion of the ridge.

The entire ridge is utilized by deer and elk during various periods of the year and serves as a corridor for seasonal movements. All of Cb ridge is normal elk winter range, while all but the upper mile is considered normal deer winter habitat. The northern two miles of Cb ridge falls within severe winter range for mule deer, where animals are concentrated during the most extreme winter conditions. Well site E-P013 and the area to the south fall within an elk winter concentration area.

Environmental Consequences of the Proposed Action: The improvement of the existing road from the Cb tract to the Rocky Mountain Pipeline, construction of the adjacent trunk pipeline, and construction of the access roads and well pads would result in a loss of 149 acres of habitat for big game and other wildlife species. Only a portion the habitat would be lost long term as revegetation of the pipeline and portions of the well pads would take place within several years. However, habitat lost through increasing the road width and maintaining portions of the well pads as unvegetated until production ceases would be a long-term loss. Increases in disturbance to wildlife on a ¼ mile corridor of the main access road would impact approximately 1900 acres. Since the road is already in place, the impact won't be disturbance of new areas, but more frequent disturbance of areas already subject to vehicle use. Well pad access roads will be built at all of the locations. The most significant amount of new road will occur at well site DW-P006 where approximately 0.7 miles of new road would extend from the main road across the ridge to the well pad on the east side of the ridge. Since general access and use of the road system on Cb Ridge is privately controlled, the primary impact from new roads would occur during the construction and drilling stages. Other than natural gas-related activities, use of new roads would be primarily by livestock operators and recreationists (hunters) in the late summer and fall months.

Environmental Consequences of the No Action Alternative: No additional disturbance of wintering big game associated with commercial oil and gas development, or net loss of habitat to normal and severe winter range would occur at this time and this place.

Mitigation: Surface disturbing activities on the segment of Cb Ridge road located on severe/critical deer winter range should be prohibited between December 1 and April 30.

Placement of gates at well sites requiring new access roads and restricting use to well operation and maintenance will reduce disturbance in the long term. This would be most effective at well pad E-P012, where an existing fence along the main road would provide a barrier to vehicles circumventing a gate. The road to well pad DW-P006 is by far the longest and gating would provide the greatest benefit. At this location a gate on the main road with short fences or other barriers to prevent vehicles from circumventing would be required upon completion of the pad.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): This project would not jeopardize the viability of any animal population. It would have no significant consequence on terrestrial habitat condition,

utility, or function, nor have any discernible effect on animal abundance or distribution at any landscape scale. The public land health standard will thus be met.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those checked in the last column will be addressed further in this EA.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management		X	
Geology and Minerals			X
Hydrology/Water Rights	X		
Law Enforcement		X	
Noise			X
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics			X
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The principal access route into the project area is the Cb Ridge road (BLM Road 1009A) which proceeds south from the Piceance Creek Road (County Road 5) for 11 miles to a point on the south end of the ridge where a proposed compressor station would be located (Figure 2). The first 2.9 miles of this road is a paved road, in good condition, developed for use by operations at Federal Oil Shale Tract Cb. The remaining 8.1 miles of the ridge road is fairly well developed, with ditches along much of its length. As the road proceeds south and gains elevation, the quality deteriorates somewhat. The improved access road would have an 18-20 foot running surface on its entire length, would be crowned and ditched, with additions to the existing water bars and the addition of surface material as needed.

Access to the ridge road from the Piceance Creek Road crosses private property and is strictly controlled. Since the closure of Tract Cb, traffic along the road has been infrequent, limited to ranchers, some oil and gas development activity and, in season, hunters. With the acceleration of oil and gas development, traffic has increased markedly. The road has become one of the major access routes to development activities in the southern part of the Double Willow Unit. Well drilling equipment, pipeline construction equipment and gas production traffic travels along the road throughout the day. Site distances are limited at several points along the road.

The entire proposed action is within an area where motorized vehicle traffic is limited to existing roads from October 1 to April 30 each year. Cross-country motorized vehicle travel is allowed from May 1 to September 30 as long as no resource damage occurs as a result.

Environmental Consequences of the Proposed Action: The upgrade of the existing road up Cb Ridge would not affect motorized vehicle use patterns in the area since the road is for the most part already in good condition and is the principal access up the ridge. Construction and operation of two gas wells at the proposed K36 397 site would cause a temporary increase in traffic up the road for a period of two or four months. After that, well service traffic to that site would be regular but of low intensity. The same pattern would be true at each of the other four potential well sites and the compressor station -- a period of increased traffic for as long as four months followed by lower intensity traffic for service of the facilities. Construction of the trunk pipeline adjacent to the road would increase traffic along the road and would also at times disrupt the flow of traffic as pipeline construction equipment and materials moved on and off the line. Simultaneous construction of any project features would intensify the use of the road.

The new access roads to the five well pads would have a minimal impact on access to public lands since the pads are near the existing ridge road. The road is not fenced on its east side and, although the west side is fenced, access is still possible at several points.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Implement road construction and maintenance standards and procedures described in the APD's 13 Point Surface Use Plan.

As directed by the authorized officer, the operator may be required to remove vegetation along the ridge road or widen the road at points in order to improve site distance.

FIRE MANAGEMENT

Affected Environment: The actions proposed all occur within an area that has minimal constraints on the use of wildfires to achieve public land health objectives. Nearly all the plant communities in the general vicinity of the project area are mature with considerable fuel loads. Most of these communities are rejuvenated by fire to maintain healthy, diverse plant communities.

Environmental Consequences of the Proposed Action: Development of oil and gas facilities in this area could restrict BLM's ability to use wildfires to achieve public land health objectives for the plant communities in and around these facilities. Any naturally occurring fires in this area would likely be put out while they are small. Large areas of mature vegetation would continue a downward decline in diversity of plant species, especially herbaceous species.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement the fire avoidance and prevention measures described in the APD's 13 Point Surface Use Plan.

GEOLOGY AND MINERALS

Affected Environment: The surficial geology in the project area is the shallow dipping Tertiary Uinta Formation within the Green River Formation (Tweto, 1979). The Green River Formation is comprised of organic-rich shaley limestone, shale, marlstone, and sandstone, and is rich in fish, insect and plant fossils. The Green River Formation contains very substantial amounts of "oil shale" which is actually a kerogen-rich marlstone (Foutz, 1994). Other mineral resources in the project include gas, coal, and nahcolite. EnCana's targeted zone in all the wells is in the Mesaverde. During drilling, potential water, oil shale, coal, oil and gas zones would be encountered from the surface to the targeted zone. This area is identified in the ROD/RMP as available for underground oil shale leasing and development.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and, if properly done, would prevent the migration of gas, water, and oil between formations. The coal zones located in the Mesaverde will also be isolated during this procedure. These zones are at a depth greater than 3,000 feet and the coal is not recoverable by conventional methods. Development of these wells would deplete the hydrocarbon resources in the targeted formation. Depending on the number of additional wells, future development of underground mining of the oil shale in and around existing wells may be limited.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

NOISE

Affected Environment: The Cb Ridge road is the primary source of man-made noise within the project area. Traffic up and down the road to oil and gas facilities south of the area produces varying degrees of noise throughout the day, with very little noise during the night. There are no residences within the project area. Those people subject to noise generated in the project area are, for the most part, employees of the oil and gas companies. Ranchers and hunters, in season, are also subject to generated noise in the area.

Environmental Consequences of the Proposed Action: Well pad construction and well drilling would generate noise for two to four months at each site. The Colorado Oil and Gas Commission (COGCC) has established a noise limit of 55 decibels (dBA) as the limit for oil and gas facilities in residential areas. (This can be compared to average highway noise of 60 dBA at 100 feet.) The 55 dBA limit would be reached at 1500 feet from a well pad construction site and at 800 feet from and operating drill rig, although the rig would be operating 24 hours a day for

the period of drilling. (USDI BLM, 2004) Local wind and terrain effects could cause that distance to vary considerably in different parts of the project area and at different times.

When the compressor station begins operation, it would generate noise round the clock for the life of the facility. The level of noise produced would depend on the number and size of compressor engines used and the muffling technology employed. Assuming a four-engine compressor station were in operation in the Cb Ridge project area, the 55 dBA level would be produced at a distance of 200 feet. The night-time COGCC limit (50 dBA) would be produced at 340 feet. Local wind and terrain effects could cause that distance to vary considerably in different parts of the project area and at different times.

Environmental Consequences of the No Action Alternative: None

Mitigation: At the discretion of the Authorized Officer, the operator will take measures to reduce noise produced by the compressor station to levels as low as the noise limits described by COGCC for residential areas.

PALEONTOLOGY

Affected Environment: The proposed well pads, road upgrade and road construction, and pipeline construction all are located in an area mapped as the Uinta Formation (Tweto 1979). BLM has classified the Uinta as a Category I formation, meaning that it is a known producer of scientifically significant fossils.

Environmental Consequences of the Proposed Action: Since the action proposed in the project area would all occur within the Uinta formation, there is potential for impacting fossil resources if it is necessary to excavate into the underlying bedrock formation to construct the well pads, including the reserve/blooie pit, to construct or upgrade the access roads, to install the pipelines, or to build the compressor station.

Environmental Consequences of the No Action Alternative: None

Mitigation: All exposed rock outcrops in the project area shall be examined by an approved paleontologist with a report detailing the results of the inventory and any mitigation recommendation shall be submitted to the BLM prior to the initiation of construction on any of the well pads, compressor site or road/pipeline right-of-way. A monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury pipelines, level well pads or excavate reserve/blooie pits, or to construct any project features.

Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the authorized officer.

RANGELAND MANAGEMENT

Affected Environment: The proposed actions in the project area occur within M.T.W. Ranch's grazing use area of the Piceance Mountain grazing allotment. The ranch is permitted to run cattle on this allotment from May through mid-November each year. The proposed actions lie within three pastures that are grazed in May through mid-July and again in October and November.

Rangeland Improvements: The access roads to well pads E-P003, E-P012 and E-P028 (K36 397) would cross a fence separating two pastures. The trunk line would cross three pasture fences and encroach on a water storage facility.

Environmental Consequences of the Proposed Action: The actions proposed would result in a forage loss to livestock of about 7 to 10 animal unit months (AUM). An AUM equates to the forage needs of a mature cow with calf for one month. Most of this loss would be only short term until successful reclamation of disturbed areas had occurred. Reclamation of the pipeline and unused portions of the roads and well pads would likely offset the short term forage loss (creating about 6-7 AUMs of available forage in the short term).

Long-term loss of forage to livestock of about 3 AUMs would occur for the life of the project assuming all five pads would have productive wells. Complete reclamation of the roads, pipelines and well pads would probably provide a small long-term increase above the present forage available to cattle.

The actions proposed could interfere with proper functioning of the range improvements near the proposal. The fences and watering facilities are necessary for control of cattle to achieve grazing objectives on the grazing allotment. Damaging fences or watering facilities or leaving gates open would interfere with control of cattle and ultimately with the proper utilization of the rangeland resource. These impacts would be greatest during the construction and drilling phases of the proposed actions.

Environmental Consequences of the No Action Alternative: None

Mitigation: Any crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications with a wire or metal gate adjacent to it. The effectiveness of the fence must be maintained at all times during construction and operation.

Construction of the trunk line will involve crossing three pasture fences. Proper fence bracing to BLM standards must be in place when going through the fence so as to maintain proper wire tensions. The effectiveness of these fences must be maintained at all times during construction.

Construction of the trunk line will avoid disturbance or damage to the watering facilities located in the NW ¼ SE ¼ section 11 T 4 S, R 97 W (latitude 39.71525, longitude 108.24123 (NAD27)).

REALTY AUTHORIZATIONS

Affected Environment: The main access route for activities within the project area would be the existing road from the Piceance Creek Road (County Road 5) up Cb Ridge to the proposed compressor station, approximately 11 miles. The portion of the road on BLM, about 10.75 miles, is designated BLM Road l009A. The access road begins off the Eureka and Double Willow Units and crosses unit boundaries. The trunk pipeline proposed to be constructed next to the road for most of its length would also cross unit boundaries and could continue off the units. The compressor station located at the south end of the project area, although located in the Double Willow Unit, would serve a gathering system that extends beyond the units.

Environmental Consequences of the Proposed Action: Since the main access road and the gas trunkline begin off the units and cross unit boundaries, rights-of-way would be required. The APDs for the two wells at well pad K36 397 (8807C and 8811C) have been accepted as an application for a ROW along the ridge road up to the compressor station and this action has been serialized as COC67995. The proposed natural gas trunk pipeline would also require a ROW, since it would be crossing unit boundaries and moving production to processing facilities outside the Eureka and Double Willow Units. An application has been received for that ROW and this action has been serialized as COC67994. An application for the compressor station was received on 08/20/04 and will be included in ROW COC67994.

Environmental Consequences of the No Action Alternative: None.

Mitigation: A "Notice to Proceed" stipulation will be included in the ROW grant for the pipelines indicating that construction of the pipelines will only be permitted to begin when the wells are producing.

The Conditions of Approval for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The Cb Ridge project area and the surrounding Willow Creek and Stewart Gulch drainages most closely resemble a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). A natural appearing environment with few administrative controls typically characterizes an SPM recreation setting; there is low interaction between users but evidence of other users may be present. An SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment with challenge and risk.

Environmental Consequences of the Proposed Action: The public would lose approximately 50 acres of dispersed recreation potential during the life of the project (30-40 years) because of well pad, road and compressor station construction. The public would most likely not recreate in the vicinity of these facilities and would be dispersed elsewhere. If drilling or pad construction coincides with hunting seasons (September through November), it would most likely disrupt the experience sought by those recreationists.

With the introduction of five new well pads and roads and a compressor station at the south end of the project area, further increases in increase of traffic could be expected, increasing the likelihood of human interactions, and the sights and sounds associated with the human environment. Eventually, the construction of the five proposed well pads and the compressor station, together with the improvement in the ridge road would work toward an environment that appears much less natural.

Environmental Consequences of the No Action Alternative: None of the loss of dispersed recreation potential would occur and there would be and no impact on hunting recreationists.

Mitigation: None.

SOCIOECONOMICS

Affected Environment: The proposed actions within the project area would be developed in Rio Blanco County but construction and drilling resources would also be drawn from Garfield County and even Mesa County. Rio Blanco County had a 2002 population of 6,063, almost unchanged from the 1990 level of 6,051. The major communities in the county are Meeker (2,272 population in 2002) and Rangeley (2,108). The county underwent a substantial economic and demographic growth in the late 1970's and early 1980's as major energy companies attempted to develop oil shale as a national energy fuel source. After a decline in jobs and population from the boom levels, the number of jobs and people in the county has remained static. Currently, the government sector makes up almost a third of all jobs in the county. The traditional farming and ranching sector has been supplemented in the last few years by a growing number of jobs in the oil and gas extraction industry as drilling activity has expanded. Many of the resources for development of the oil and gas resource come out of Garfield County or Mesa County and locate in Rio Blanco County on only a temporary basis.

Economic activities that currently take place within the project area are livestock grazing and provision of guiding and outfitting services during hunting season.

Environmental Consequences of the Proposed Action: The employment required for construction of the facilities in the Cb Ridge project area would most likely not be new employment but workers already available in the area. Some may very well reside in other western Colorado counties. Motels, restaurants, grocery stores, gas stations, vehicle and equipment repair shops may all experience additional activity. The facilities developed by the proposed actions would expand the local property tax base and the gas produced by the proposed wells would generate increased federal royalties. Half of those royalties would be returned to the

State of Colorado and to jurisdiction within Colorado, including Rio Blanco County. This net effect of these impacts would be considered beneficial but low.

Construction of the proposed facilities in the project area, oil and gas drilling activities, and well service traffic would all have the effect of causing big game to disperse and that would reduce the likelihood of hunting success in the immediate area. This may have a negative impact on the guide and outfit services that operate in the area of Cb Ridge.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The entire project area is on public lands administered by BLM that have received a VRM Class III designation. The management goal for this class is to partially retain the existing character of the landscape. The change brought about by activities on lands with VRM III designation may be evident. The visual contrast may be moderate but should not dominate the natural landscape character. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Public access to the area of the proposed actions is highly constrained and a limited number of local residents and hunters in season, together with a growing number of oil and gas company employees and contractors, make up the potential viewing public.

Environmental Consequences of the Proposed Action: The upgrade of the existing access road up Cb Ridge would not alter the existing character of the landscape. The five proposed well pads, with their associated access roads and pipelines, the construction of the trunk pipeline adjacent to the ridge road and the construction of a 10 acre compressor facility would alter the landscape character. Removal of vegetation and recontouring of the natural surface introduce linear features into the landscape, offering contrasting soil and vegetation colors and patterns that had not previously been there. The location of some of the well pads and, especially, of the compressor building on prominent sites on the ridgeline or on exposed slopes magnifies the effect. This change would lessen in the long-term as exposed areas were reclaimed and bare soil was not so extensively evident. Additionally, above-ground natural gas production facilities such as well heads, metering sheds, condensate tanks, and compressor facilities would introduce man-made industrial facilities that would draw attention due to their size, color and shape. The use of natural paint tones would reduce the visual impact of the facilities.

Viewed from a distance, the changes in the landscape would appear to be moderate and would not dominate the natural character of the landscape, meeting the standards of the VRM III classification.

Environmental Consequences of the No Action Alternative: None

Mitigation: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

Disturbed areas on well pads not needed for production equipment shall be restored as nearly as possible to their original contours and seeded. Cut and fill slopes shall be stabilized with vegetation, matting or equivalent measures to prevent erosion and reduce the color contrast.

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area PRMP/FEIS. Current development, including the actions proposed in the Cb Ridge project area, has not exceeded the foreseeable development analyzed in the PRMP/FEIS.

The road up Cb Ridge from the Piceance Creek Road (CR 5) is becoming one of the primary access routes into the Double Willow Unit. As development increases in that area, the traffic on the Cb Ridge road can be expected to grow, increasing temporarily with each new well drilled, and then as new wells come into production, facility maintenance and well service needs would insure that relatively high levels of traffic on the road are sustained over the life of the Eureka/Double Willow project (30-40 years). The sustained high levels of traffic would mean that secondary impacts on wildlife along the ridge and on the quality of the recreation experience available there would also endure for the life of the project.

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PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

Project Team		
Name	**Title**	**Area of Responsibility**
BLM Oversight		
Keith Whitaker	Natural Resource Specialist	Project Lead; Visual Resources
Glenn Klingler	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife; Wetlands and Riparian Zones
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern; Threatened and Endangered Plant Species
Chris Ham	Outdoor Recreation Planner	Recreation; Wilderness; Access and Transportation

Mark Hafkenschiel	Rangeland Management Specialist	Vegetation; Invasive, Non-Native Species; Rangeland Management
Michael Selle	Archeologist	Cultural and Paleontological Resources
Caroline Hollowed	Hydrologist	Air Quality; Water Quality, Surface and Ground; Hydrology and Water Rights; and Soils
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid
WestWater Engineering (Third Party Contractor)		
Dan McWilliams	Senior Engineer	Air Quality and Soils
Steve Moore	Environmental Scientist	Areas of Critical Environmental Concern; Cultural Resources; Paleontological Resources; Wastes, Hazardous or Solid; Access and Transportation; Wilderness; Realty Authorizations; Recreation; and Visual Resources
Rusty Roberts	Range Conservationist	Threatened and Endangered Plant Species; Invasive, Non-Native Species; Wetlands and Riparian Zones; Vegetation; Fire Management; Rangeland Management; and Wild Horses
Doug McVean	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife, Terrestrial and Aquatic
Kim Kaal	Senior Geologist	Water Quality, Surface and Ground; Hydrology and Water Rights; Geology and Minerals
Mike Klish	Environmental Scientist	Forest Management

Finding of No Significant Impact/Decision Record (FONSI/DR)

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FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment, analyzing the environmental effects of the proposed actions, has been reviewed. The approved mitigation measures (attached to the APDs as Conditions of Approval and to the right-of-way grants as stipulations) for wells 8807C and 8811C at location K36 397, (E-P028) -Lease COC-57972, proposed two wells at location E-P003 - Lease COC-57966; proposed two wells each at locations E-P012 and E-P013, Lease COC-57970; proposed two wells at location DW-P006, Lease COC-57973; trunk pipeline and compressor station, COC67994; and use and upgrade of Cb Ridge Road (BLM Road 1009A), COC67995 result in a finding of no significant impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action for wells 8611C, 8607C, locations DW-P006, E-P003, E-P012 and E-P013 or for rights-of-way COC67995 and COC67994.

DECISION/RATIONALE: It is my decision to approve the development of wells 8611C and 8607C, a right-of-way grant on BLM Road 1009A, a right-of-way grant for a pipeline adjacent to BLM Road 1009A and for the proposed wells located at sites E-P003, E-P012 and E-P013. The proposed action is in concert with the objectives of the White River ROD/RMP in that it would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval.

MITIGATION MEASURES: 1. Implement mitigation including dust abatement measures as described in the APD's 13 Point Surface Use Plan.

2. Permitting of all regulated air pollution sources through the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division, will assure compliance with all federal and state standards.

3. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the AO. Within five working days, the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places,

- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary),

- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

4. Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods (Pesticide Use Proposal) approved in advance by the AO. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator.

5. The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

6. If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

7. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4 (c) and (d), the holder must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the AO.

8. Site 5RB 4807 (T.4S, R.97W, SWSESWNW, sec.14) shall be avoided by all construction and maintenance activities for the pipeline and road.

9. A seasonal restriction on construction and drilling during the raptor nesting season Feb. 1 to Aug. 15 may be placed on well pad E-P003 to avoid disturbance of excellent raptor nesting habitat located along the west rim and side draws (approximately 20 acres).

10. A current raptor survey must be obtained prior to surface disturbing activities if construction is going to occur during this nesting season. It is the responsibility of EnCana to contact the BLM or a third-party contractor to have this survey completed prior to surface-disturbing activities.

11. In occupied habitat, or habitat suitable for restoration for sage-grouse, a seed mix containing mountain sage, limited perennial grass seed (minimize competition with seeded shrubs and forbs) and forbs (i.e. western yarrow, penstemons, globe mallow, etc.) should be applied in areas being re-vegetated. When seeding mountain big sage brush, the seed should be broadcast rather than drilled and applied in the fall or on snow during the winter.

12. After development of the facilities at the DW-P006 location, the access road leading to the well pad should be gated adjacent to the main ridge road. The gate should be supplemented with boulders and/or short segments of fencing to discourage vehicles from circumventing the gate.

13. The proposed actions in the project area represent an exploration phase. Should the Eureka/Double Willow Units go to a production phase, a comprehensive mitigation plan for greater sage-grouse and other potentially affected species will be developed for the units at that time.

14. The operator shall be required to collect and properly dispose of any solid wastes generated by this project.

15. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation use once the drilling is completed. (RMP 4)

16. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years. (RMP 6)

17. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the AO. (RMP 8)

18. Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance. (RMP 24)

19. Oil and gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain permits authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport. Submit the stormwater management plan to BLM showing how BMPs will be utilized to prevent stormwater erosion.

20. Eliminate undesirable berms that retard normal surface runoff. (RMP 35)

21. Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

22. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, according to the following standard or as directed by the authorized officer. (RMP 96)

Grade	Spacing
2 %	Every 200 feet
2-4 %	Every 100 feet

4-5 %	Every 75 feet
5+ %	Every 50 feet

23. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion. (RMP 97)

24. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff. (RMP 98)

25. All disturbed areas for the pipeline and roads with the exception of the road travel surface would be reclaimed within the first growing season or prior to the first full growing season following disturbance with native seed mix #2 (see below). Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years after construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the authorized officer.

26. Use Native Seed Mix #2 in pounds of pure live seed per acre (lbs/pls/ac) (Source White River ROD/RMP Appendix B, Conditions of Approval):

Western wheatgrass (Rosanna)	2 lbs/pls/ac
Indian ricegrass (Rimrock)	1 lbs/pls/ac
Bluebunch wheatgrass (Whitmar)	2 lbs/pls/ac
Thickspike wheatgrass (Critana)	2 lbs/pls/ac
Green needlegrass (Lodorm)	1 lbs/pls/ac
Globemallow	0.5 lbs/pls/ac

27. Areas of the well pads not used during any production phase, including cut and fill slopes, would be contoured to a slope of about 5:1, an would have topsoil redistributed and revegetated with Native Seed Mixture #2 prior to the first full growing season following completion of drilling.

28. Surface disturbing activities within the Cb Ridge project area located on severe/critical deer winter range should be prohibited between Deceember1 and April 30. The BLM reserves the right to alter the dates of this condition based on local winter weather conditions. It is the responsibility of EnCana to contact BLM prior to initiating surface disturbing activities to determine if this condition is in effect.

29. All exposed rock outcrops in the project area shall be examined by an approved paleontologist with a report detailing the results of the inventory and any mitigation recommendation shall be submitted to the BLM prior to the initiation of construction on any of the well pads, compressor site or road/pipeline right-of-way. A paleontology monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury the pipeline, level the well pad or excavate the reserve/blooie pit.

30. Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the AO.

31. After development of the facilities at the DW-P006 location, the access road leading to the well pad should be gated adjacent to the main ridge road. The gate should be supplemented with boulders and/or short segments of fencing to discourage vehicles from circumventing the gate.

32. After development of the facilities at the E-P012 location, the access road leading to the well pad should be gated adjacent to the main ridge road.

33. Any crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications.

34. As directed by the AO, the operator may be required to remove vegetation along the ridge road or widen the road at points in order to improve site distance.

35. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed onsite shall be low profile and painted Munsell Soil Color Chart Juniper Green or equivalent within six months of installation.

36. Disturbed areas on well pads not needed for production equipment shall be restored as nearly as possible to their original contours and seeded. Cut and fill slopes shall be stabilized with vegetation, matting or equivalent measures to prevent erosion and reduce the color contrast.

37. At the discretion of the Authorized Officer, the operator will take measures to reduce noise produced by the compressor station to levels as low as the noise limits described by COGCC for residential areas.

38. A "Notice to Proceed" stipulation will be included in the ROW grant for the pipelines, that will only allow construction of these pipelines to begin when these wells are producing. The "Conditions of Approval" for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

39. The Conditions of Approval for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

NAME OF PREPARER: WestWater Engineering
2516 Foresight Circle #1
Grand Junction, CO 81505
Telephone: (970) 241-7076

NAME OF ENVIRONMENTAL COORDINATOR: Carolmé P. Halbourd 9/8/04

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

DATE SIGNED: 9/8/04

ATTACHMENTS: Figure 1 Location Map of the Proposed Action
Figure 2 Map of the Cb Ridge Project Area

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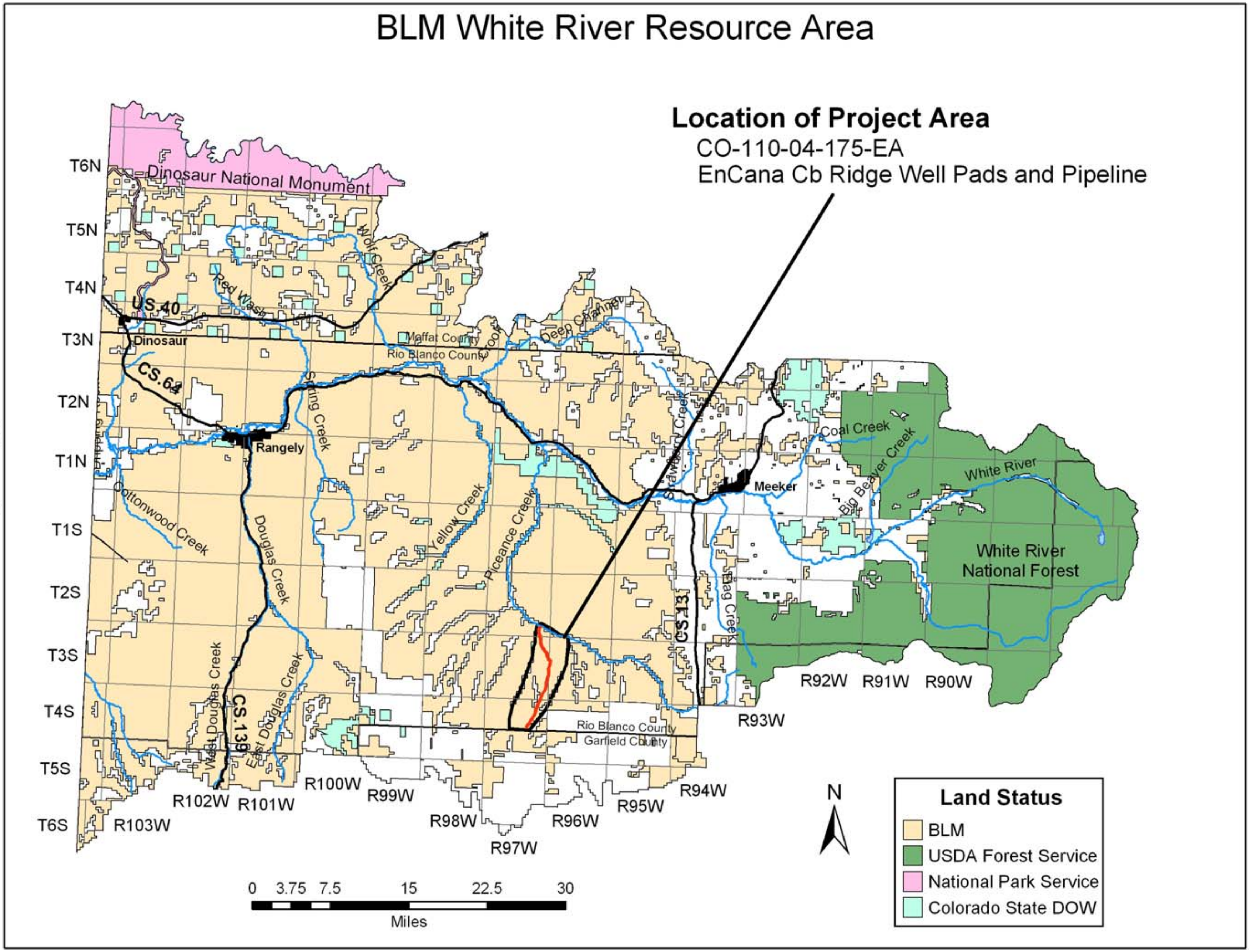
Figure 1


BLM White River Resource Area
Location of Project Area
CO-110-04-175-EA
EnCana Cb Ridge Well Pads and Pipeline
Dinosaur National Monument
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
T6S
US 40
Dinosaur
CS 64
Rangely
Meeker
CS 13
CS 139
Red Wash
Wolf Creek
Deep Channel
Moffat County
Rio Blanco County
Spring Creek
Cottonwood Creek
Douglas Creek
Yellow Creek
Piceance Creek
Strawberry Creek
Coal Creek
Big Beaver Creek
White River
Flag Creek
West Douglas Creek
East Douglas Creek
White River
National Forest
Rio Blanco County
Garfield County
R103W
R102W
R101W
R100W
R99W
R98W
R97W
R96W
R95W
R94W
R93W
R92W
R91W
R90W
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Miles
N
Land Status
BLM
USDA Forest Service
National Park Service
Colorado State DOW

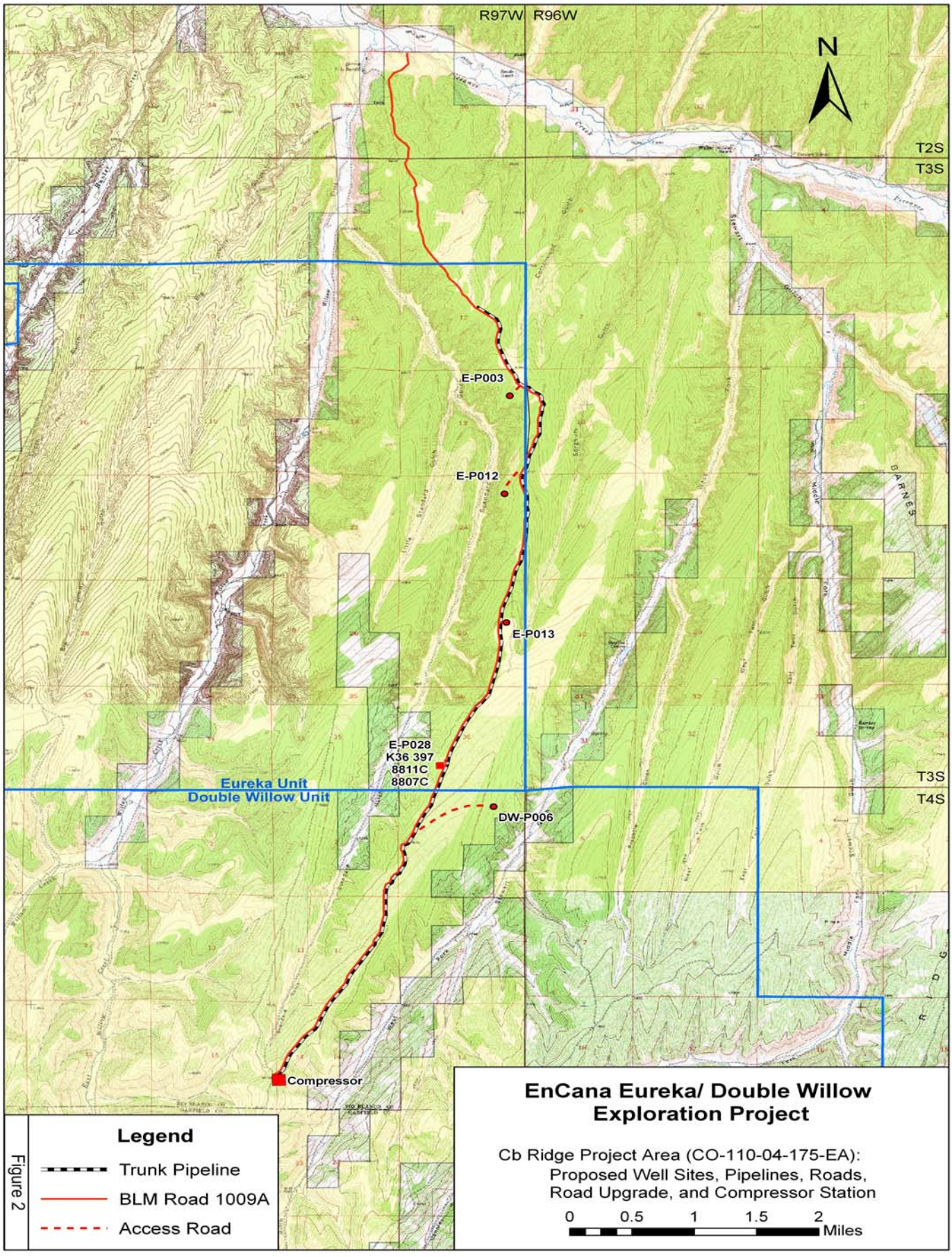
R97W R96W
N
T2S
T3S
E-P003
E-P012
E-P013
E-P028
K36 397
8811C
8807C
Eureka Unit
Double Willow Unit
DW-P006
T3S
T4S
Compressor
Legend
Trunk Pipeline
BLM Road 1009A
Access Road
EnCana Eureka/ Double Willow
Exploration Project
Cb Ridge Project Area (CO-110-04-175-EA):
Proposed Well Sites, Pipelines, Roads,
Road Upgrade, and Compressor Station
0 0.5 1 1.5 2
Miles

Figure 2